FRACTURE-LUXATION OF THE HIP-JOINT

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In order to get a fracture-luxation of the hip-joint (articulatio coxae) a very big strength must be exerted between the femoral head and acetabulum (cotyloid cavity). According to Chabanenko (1972) this disorder is not so rare (54.2 %) specially after transport accidents. Turturikov and Kurdjin (1982) report that the nowadays' people pay a lot concerning their love to cars with fractures of acetabulum. Jelev (1966) accepts that the fracture-luxation of the hip-joint is a very often result of crashing of a vehicle when moving. Eftimov et al. (1973) presume that it is contributed to the workers in mines after incidents.

The patients from our study have got their fracture-luxations of the hip-joint after transport accidents and falling from high places. The frequency of such disorders goes up recently. Some authors report a big number of studied cases: Epstein (1974) — 242 fracture-luxations; D'Aubigne and Mazas (1964) — 102; Benabelles (1976) — 119; Troianescu et al. (1970) — 117.; In our country Turturikov and Kurdjin for the recent 15 years cured 23 patients with fracture-luxations and protrusion of the acetabulum. Our experience includes 22 patients: 17 men and 5 women. They have been operated and studied clinically for a period of 6 years. Cases without an operation were not under investigation. The age of the patients was between 24 and 60 with prevalance of the age of activity and labour (30—50 years).

The ratio between the fractures of pelvis and fracture-luxations of acetabulum according to various authors is different: Solheim (1973) reports that fractures of pelvis are 4 % of all fractures and from them only 11 % of acetabulum. Chabanenko (1972) suggests 10.2 %, whereas Troianescu et al. (1970) — 25 %.

The classification of the fractures and luxations of the hip-joint is not an easy task. Epstein (1974) accepts 5 types according to the sizes and number of the bone fragments. We support the classification of Letournel (1980) who differentiates the common and complex fractures of acetabulum.

The pathoanatomical foundings are various. Most often is broken the upper-posterior end of acetabulum and the femoral head moves up and backwards. This is so because that part of acetabulum is loaded considerably when standing, walking and sitting. The large bone fragments usually are not free. The fracture stripes are in various directions and determine the segment-like type of the fracture and the single columns of pelvis. Eisenberg et al. (1972) and Hirasawa et al. (1977) report one case each with a disorder of n. ischiadicus. Thus according to some other authors the percent of ischiadical disorders after fracture-luxations of hip-joints is between 3 and 33 %. Marot et al. (1979) announce their experience with a case of bilateral damage of the hip-joint. In our study we investigated two patients with ischiadical disorders due to a compression of dislocated upper-posterior segment. After dislocation of the femoral head is thorn ligamentum teres which makes later favourable aseptic necrosis and arthrosis of the femoral head.

Roentgenographical study has certain advantages for improvement the diagnose and state of the broken acetabulum and luxation of the head. The common X-ray photo can not represent the exact location of the bone fragments before and after the treatment, because the latter are very often hidden by the femoral head and the trochanter massive. Jelev (1966) suggests that such X-ray study must be held only with flexed, bent and rotated (inside) hip. Chabanenko (1972) performs X-ray graphs of the damaged joint in 3/4 projection.

The opinions for treatment of the fracture-luxations of the hip-joint are contradictory. English and German authors are more or less conservative, whereas others (Judet and Letournel, 1974) suggest only operative treatment with all dislocated fractures of acetabulum.

The conservative treatment is suitable with minimum fractures of acetabulum at the end where the reposition until 12th hour can prevent the aseptic necrosis of the luxated femoral head. With undislocated bone fragments of acetabulum only the direct extension unloads the joint and supports the curative process. Jenny et al. (1973) apply outer fixators of Hofmann with 2 cases and the results are encouraging. The operative treatment has certain advantages not only because contributes to the anatomical restoration but also because realizes the fixation of the fragments by ostheosynthesis and compression.

The fracture-luxations with large and dislocated fragments of acetabulum are indicated to operation; the fragments can hinder the reposition of the femoral head or in other cases can be left dislocated even after the reposition of the femoral head and can not be influenced by the direct extension.

Absolutely indicated to operation are fracture-luxations in combination with lesion of n. ischiadicus. Indications to operation are also old fracture-luxations of the hip-joint where arthrodesis or alloplastics of the hip-joint is performed.

Our 22 operated patients were treated as follows:

First of all the patient was taken out of the shock state. After that under a total narcosis a manual reposition of the joint was performed. With 19 patients the reposition was successful and with 3 — unsuccessful due to bone fragments in the acetabulum. After that follows the direct skeleton extension by pulling through the femoral condiles. The operation was done 2—3 days after the trauma only if the condition of the patient allowed. Most oftenly applied was the posterior way after Kocher-Langenbeck; this method was selected because 78 % of the patients had fractures of the upper-posterior part of acetabulum and posterior column. Frontal way (method) after Smith-Petersen was applied with the cases of fracture of the front column and transversal fractures.

The fracture was opened and reposition of the bone fragments was done without dissecting them from the soft tissues. The fixation of the fragments was done by using 2—3 bolts or by Kirschner needles (rarer), metal plates, etc. If the nerve was compressed or cut it had to be revised, decompressed or connected operatively. The results must be analysed for a period of 5—10 years after operation. According to Epstein (1974) the conservative treatment has positive results in 3—13 %, operative — in 41 %; the operative results are even better if operation is done as early as possible. According to the same author the frontal way of treatment gives poorer results; the same is registered with undiagnosed lesions, other disorders of n. ischiadicus, infected cases, etc.

D'Aubigne and Mazas (1964) determine the results after operation in two groups: 1) When the femoral head is at the level of acetabulum. 2) With additional necrosis of the femoral head, coxarthrosis and deformation.

Kleiman et al. (1971) report one case with a late paresis or paralysis of n. ischiadicus after a posterior fracture-luxation of acetabulum.

As a complication can be accepted also the paraarticular ossification. Turturikov and Kurdjin (1982) investigated 5 cases with such complications. Epstein (1974) also reports the ossification as a late complication after fracture-luxation of the hip-joint.

The results of our operative treatment according to the clinical and roentgenographical parameters were: satisfactory — 20 cases and poor — 2 cases. The latter were due to a suppuration process after operation.

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ПЕРЕЛОМ-ВЫВИХ ТАЗОБЕДРЕННОГО СУСТАВА

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РЕЗЮМЕ

Перелом-вывих тазобедренного сустава является тяжелым увреждением опорно-двигательного аппарата. В работе описано лечение 22 больных, преимущественно мужчин, с переломомвывихом тазобедренного сустава, полученным при транспортных происшествиях и при падении с высоты. Авторами принята классификация Letournel, которая учитывает переломы-вертлужной впадины. Все наши больные были прооперированы после их выведения из шокового состояния. После этого производилось вправление сустава. До операции применялась прямая экстензия в течение 2—5 дней. Во время операции открывалось место перелома и проводилось вправление костных фрагментов. Их фиксирование производилось винтами, реже иглами Киршнера или металлическими пластинками. Прослеживание поздних результатов операций показывает, что 20 из этих операций закончились успешно и только 2 неуспешно. Последнее связано с суппорацией в постоперативный период.